

**AMENDMENTS TO THE CLAIMS**

For the Examiner's convenience, all pending claims are set forth below and have been amended where noted:

1. (Currently Amended) An integrated and self contained diesel electric thruster system integral with a dynamic positioning control system for dynamic positioning of any waterborne vessel having a hull with at least two sides and a deck connecting the sides, comprising:
  - a. at least two azimuthing thrusters, each removably mounted to the vessel, comprising:
    - i. a skid removably secured to the deck;
    - ii. an upper thruster housing, removably connected to the skid, containing steering gear with electric slewing drive and electrical steering angle feedback sensors and a multi-conductor slip ring assembly;
    - iii. a stem moveably connected with a connector to the skid;
    - iv. a strut connected to the stem;
    - v. an electric pod connected to the strut;
    - vi. wherein the pod comprises a housing and an electric motor contained within the housing; a drive shaft connected to the electric motor on one end, at least one propeller with nozzle connected to the drive shaft; and an electric power cable connecting on one end to the multi-conductor slip ring assembly and on the other end to the electric motor;
  - b. at least two self-contained diesel electric power units removably secured to the deck, one for each thruster, comprising:
    - i. a housing comprising a diesel engine with a fuel day tank, a cooling system for the engine, an exhaust system for the engine, an alternator for

- the engine, electrical control system, an electric starter, a battery, and the diesel engine is connected to an electrical generator with a frequency converter drive;
- ii. an electric power cable and an electrical control cable, each having a first and second end, wherein each the first ends are secured to the diesel electric power unit and the other ends are secured to the thruster skid;
  - c. at least one dynamic positioning computer connected to each of the self contained diesel electric power units;
  - d. at least one motion reference sensor connected to the dynamic positioning computer to correct reference position signals for motion of the vessel; and
  - e. at least one heading sensor connected to the dynamic positioning computer and at least one sensor selected from group consisting of position reference sensors connected to the dynamic positioning computer; environmental sensors connected to the dynamic positioning computer; and combinations thereof.
2. (Currently Amended) The ~~system~~ systems of claim 1, wherein one or more hydraulic cylinders at the connector are used to tilt the stem upwards to a stowed position of the thruster, whereby the thruster is completely out of the water.
  3. (Currently Amended) The ~~system~~ systems of claim 1, wherein the slewing drive for azimuthing is a hydraulic slewing drive.
  4. (Currently Amended) The ~~system~~ systems of claim 1, wherein the position reference sensors are selected from the group consisting of global positioning system (GPS) sensors; hydro-acoustic sensors; fan beam laser sensors; Artimis system signal sensors; vertical taut wire system sensors, horizontal taut wire system sensors; differential and absolute reference positioning system (DARPS) sensors.
  5. (Currently Amended) The ~~system~~ systems of claim 1, wherein the environmental sensors are selected from the group consisting of wind sensors, current sensor and combinations

thereof.

6. (Currently Amended) The ~~system~~ systems of claim 1, wherein the dynamic positioning computer further comprises at least one uninterruptible power source connected to the computer.
7. (Currently Amended) The ~~system~~ systems of claim 1, wherein the diesel engine ranges from 500 horsepower to 3000 horsepower.
8. (Currently Amended) The ~~system~~ systems of claim 1, wherein the motor is a variable speed AC electric motor.
9. (Currently Amended) The ~~system~~ systems of claim 1, wherein the motor is a variable speed DC electric motor and ~~the motor is driven by a the drive is~~ silicon-controlled rectifier (SCR) drive.
10. (Currently Amended) The ~~system~~ systems of claim 1, wherein the motor is reversible.
11. (Currently Amended) The ~~system~~ systems of claim 1, wherein the connector is a hinge.
12. (Currently Amended) The ~~system~~ systems of claim 1, wherein the stem is bolted to the skid.
13. (Currently Amended) The ~~system~~ systems of claim 1, wherein the stem further comprises at least one hydraulic cylinder connected to the stem to raise or lower the stem.
14. (Currently Amended) The ~~system~~ systems of claim 1, wherein the thruster is mounted to the deck of the vessel.
15. (Currently Amended) The ~~system~~ systems of claim 1, wherein the thruster is mounted to the side of the hull above the water line of the vessel.
16. (Currently Amended) The ~~system~~ systems of claim 1, comprising at least two thrusters.
17. (Currently Amended) A waterborne vessel comprising ~~at least two thrusters as defined in claim 1~~ an integrated and self contained diesel electric thruster system integral with a

dynamic positioning control system for dynamic positioning of any waterborne vessel having a hull with at least two sides and a deck connecting the sides, comprising:

- a. at least two azimuthing thrusters, each removably mounted to the vessel, comprising:
  - i. a skid removably secured to the deck;
  - ii. an upper thruster housing, removably connected to the skid, containing steering gear with electric slewing drive and electrical steering angle feedback sensors and a multi-conductor slip ring assembly;
  - iii. a stem moveably connected with a connector to the skid;
  - iv. a strut connected to the stem;
  - v. an electric pod connected to the strut;
  - vi. wherein the pod comprises a housing and an electric motor contained within the housing; a drive shaft connected to the electric motor on one end, at least one propeller with nozzle connected to the drive shaft; and an electric power cable connecting on one end to the multi-conductor slip ring assembly and on the other end to the electric motor;
- b. at least two self-contained diesel electric power units removably secured to the deck, one for each thruster, comprising:
  - i. a housing comprising a diesel engine with a fuel day tank, a cooling system for the engine, an exhaust system for the engine, an alternator for the engine, electrical control system, an electric starter, a battery, and the diesel engine is connected to an electrical generator with a frequency converter drive;
  - ii. an electric power cable and an electrical control cable, each having a first and second end, wherein each the first ends are secured to the diesel

- electric power unit and the other ends are secured to the thruster skid;
- c. at least one dynamic positioning computer connected to each of the self contained diesel electric power units;
  - d. at least one motion reference sensor connected to the dynamic positioning computer to correct reference position signals for motion of the vessel; and
  - e. at least one heading sensor connected to the dynamic positioning computer and at least one sensor selected from group consisting of position reference sensors connected to the dynamic positioning computer; environmental sensors connected to the dynamic positioning computer; and combinations thereof.
18. (Currently Amended) An integrated and self contained gas turbine electric thruster system integral with a dynamic positioning control system for dynamic positioning of any waterborne vessel having a hull with at least two sides and a deck connecting the sides, comprising:
- a. at least two azimuthing thrusters, each removably mounted to the vessel, comprising:
    - i. a skid removably secured to the deck;
    - ii. an upper thruster housing, removably connected to the skid, containing steering gear with electric slewing drive and electrical steering angle feedback sensors and a multi-conductor slip ring assembly;
    - iii. a stem moveably connected with a connector to the skid;
    - iv. a strut connected to the stem;
    - v. an electric pod connected to the strut;
    - vi. wherein the pod comprises a housing and an electric motor contained within the housing; a drive shaft connected to the electric motor on one end, at least one propeller with nozzle connected to the drive shaft; and an

- electric power cable connecting on one end to the multi-conductor slip ring assembly and on the other end to the electric motor;
- b. at least two self-contained gas turbine electric power units removably secured to the deck, one for each thruster, comprising:
    - i. a housing comprising a gas turbine with a fuel day tank, a cooling system for the gas turbine, an exhaust system for the gas turbine, an alternator for the gas turbine, electrical control system, an electric starter, a battery, and the gas turbine is connected to an electrical generator with a frequency converter drive;
    - ii. an electric power cable and an electrical control cable, each having a first and second end, wherein each the first ends are secured to the gas turbine electric power unit and the other ends are secured to the thruster skid;
  - c. at least one dynamic positioning computer connected to each of the self contained gas turbine electric power units;
  - d. at least one motion reference sensor connected to the dynamic positioning computer to correct reference position signals for motion of the vessel; and
  - e. at least one heading sensor connected to the dynamic positioning computer and at least one sensor selected from each group consisting of position reference sensors connected to the dynamic positioning computer; environmental sensors connected to the dynamic positioning computer; and combinations thereof.

Applicant believes no new matter has been added with these amendments.